Preliminary Results of the Appalachian Site of the National Fire and Fire Surrogate Study

by **Thomas Waldrop**, Ph.D.
Research Forester

Tom Waldrop and Katie Greenberg (SRS-4101) presented preliminary results of the Appalachian site of the National Fire and Fire Surrogate Study (Green River Game Land) to managers of the North Carolina Wildlife Resources Commission, the cooperating landowner. The burn-only and mechanical-only treatments increased fine fuels, which are expected to decompose rapidly. The mechanical and burn treatment reduced fuels more than other treatments; but these treatments supported high fire intensities. Mortality of overstory hardwoods occurred when groundline temperatures exceeded 700^{o} C. Katie Greenberg, cooperator for the study at Green River, described changes to herpetofauna, small mammals, and birds that were caused by fuel reduction treatments. Amphibian and reptile abundance was similar among all treatments during all years. Amphibian richness differed among treatments during some years, but differences did not appear to be biologically meaningful (e.g., there were treatment differences in 2001 when no treatments had been implemented). No differences were seen in 2004; reptile richness did not differ among treatments during any year. Small mammal abundance differed among treatments in 2002 and 2003. Results should be considered preliminary, as these data were not adjusted for differences in the number of trap nights among treatments and years, or due to trap tampering, probably by raccoons. Species richness differed among treatments during some years, but not during 2003. Differences did not appear to be biologically meaningful (i.e., there were differences among "treatments" in 2001 when no treatments had yet been implemented). Bird abundance and species richness were similar among treatments, except during 2004 when richness increased in mechanical + burn. The abundance of shrub-nesters was (marginally) greater in mechanical + burn than burn only treatment areas during 2004. Responses were most evident at the species level. Some species responded (increased or decreased) to treatments, whereas others did not. Work at this site is funded under the National Fire Plan; the original National Fire and Fire Surrogates study continues to be funded by the Joint Fire Sciences Program. More information on this site is available on our website at http://www.srs.fs.usda.gov/ffs_gr/ .species richness were similar among treatments, except during 2004 when richness increased in mechanical + burn. The abundance of shrub-nesters was (marginally) greater in mechanical + burn than burn only treatment areas during 2004. Responses were most evident at the species level. Some species responded (increased or decreased) to treatments, whereas others did not. Work at this site is funded under the National Fire Plan; the original National Fire and Fire Surrogates study continues to be funded by the Joint Fire Sciences Program. More information on this site is available on our website at http://www.srs.fs.usda.gov/ffs_gr/ .

Hooded Warbler
Wilsonia citrina

Five-lined Skink
Eumeces fasciatus